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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,615	11/28/2000	Mark A. Strobel	55270USA8A.002	8433

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3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

EXAMINER
JACKSON, MONIQUE R

ART UNIT	PAPER NUMBER
1773	14

DATE MAILED: 07/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/724,615	STROBEL ET AL.	
	Examiner	Art Unit	
	Monique R Jackson	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 May 1930* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-18* is/are allowed.

6)☒ Claim(s) *19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 6/20/03 has been entered.

2. The amendment filed 6/20/30 has been entered. New claims 13-19 have been added. Claims 1-19 are pending in the application.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strobel et al (USPN 5,900,317.) Strobel et al teaches a method for modifying the surface of a polymeric substrate by exposing the surface to a flame, where the flame is supported by a fuel and oxidizer mixture that includes at least one silicon-containing compound introduced into the flame as a vapor and functioning as a fuel substitute, wherein the silicon-containing compound may be silylthioethers (*hence a sulfur-containing compound.)* (Abstract; Col. 3, line 16.) Strobel et al further teach example surface-treated films that are tested by coating the surface-treated films with an adhesive and then adhering the surface-treated films to a metal substrate (Col. 6, lines 12-28.) Though Strobel et al do not specifically teach examples utilizing the disclosed silylthioethers, one having ordinary skill in the art at the time of the invention would have been

motivated by the teachings of Strobel et al to utilize polymer films flame treated with the silylthioethers in the metal adhesion tests taught by Strobel et al.

5. Claim 19 is under 35 U.S.C. 103(a) as being unpatentable over Balloni et al (USPN 4,888,237) in view of Strobel et al. Balloni et al teach a process for the manufacture of metallized polyolefin films and the resulting films wherein the films comprise a polyolefin layer which is surface treated by a flame treated followed by vacuum metallization of the treated surface preferably with aluminum, wherein Balloni et al teach that flame treatment is a well known surface treatment method to improve the adherence of a subsequently applied coating to a polymer film (Abstract; Background.) However, Balloni et al do not teach that the flame treatment comprises a flame that is supported by an oxidizer and fuel mixture that includes at least one sulfur-containing compound that functions as a fuel substitute as instantly claimed. However, Strobel et al teach that an improved flame-treating process to modify the surface of a polymeric substrate such as a polyolefin substrate to improve the wettability of the polymer film surface for subsequent coating comprises a flame supported by a fuel and oxidizer mixture that includes at least one silicon-containing compound introduced into the flame as a vapor and functioning as a fuel substitute and the silicon-containing compound may be silylthioethers *(hence a sulfur-containing compound.)* (Abstract; Col. 3, line 16.) (Abstract; Col. 4, lines 41-67.) Strobel et al teach that the polymeric substrates modified by the flame treating process exhibit superior wettability over polymer substrates treated by other flame-treating processes (Col. 5, lines 1-31.) Hence, one having ordinary skill in the art at the time of the invention would have been motivated to utilize the flame treating process taught by Strobel et al utilizing a silylthioether compound as a fuel substitute in the invention taught by Balloni et al.

Allowable Subject Matter

6. Claims 1-18 are allowed. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art Strobel et al (USPN 5,900,317) teaches a method for modifying the surface of a polymeric substrate by exposing the surface to a flame, where the flame is supported by a fuel and oxidizer mixture that includes at least one silicon-containing compound introduced into the flame as a vapor and functioning as a fuel substitute, wherein the silicon-containing compound may be silylthioethers (*a sulfur-containing compound*) however, Strobel et al do not teach or render obvious that the fuel substitute is hydrogen sulfide, mercaptan, or a sulfur-containing compound that is a gas at room temperature and pressure wherein the Examiner has interpreted the term "at room temperature and pressure" to mean at a temperature of approximately 70°C and atmospheric pressure.

7. Further, with regards to the instant product, Angelopoulos et al (USPN 5,997,997), teaches a substrate comprising a polymeric dielectric surface that has been heat treated to provide oxidized sulfur-containing chemical groups and unoxidized sulfur-containing chemical groups on the dielectric surface. However, Angelopoulos et al does not teach or render obvious that the dielectric surface comprising the oxidized and unoxidized sulfur-containing chemical groups is flame treated or that the dielectric surface comprises at least one nitroso or nitrosoamine chemical group and at least one oxidized sulfur-containing chemical group.

8. Further, with regards to the flame treating process, the closest prior art, Asakura et al, teaches various methods of surface treating a polymeric substrate including corona discharge treatment, low temperature plasma treatment, and flame treatment, wherein the treatment process can be performed in various atmospheres utilizing various gases including sulfur dioxide and

hydrogen sulfide. However, as argued by the Applicant, it is apparent that the disclosed gases correspond to the atmosphere in which the treatment process is conducted not the gases utilized to fuel the flame in a flame treatment process, particularly given that methane, one of the most common fuel gases utilized in the art, is not disclosed. Therefore, it would not have been obvious to one skilled in the art at the time of the invention based on the invention taught by Asakura et al to utilize a sulfur containing compound in conjunction with a flame treating process to treat the surface of a polymeric substrate, nor would it have been obvious that the heat treated product produced by Asakura et al would have the same structure as the instant invention.

9. Applicant's arguments filed 5/2/03 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Monique R. Jackson
Patent Examiner
Technology Center 1700
July 25, 2003